Patent Claims:

1. A composite material comprising a plurality of assembled discs (10) made of a matrix material, wherein preferably each disc (10) is provided with at least one groove (13) in which at least one fiber (14) is inserted, characterized in that a composite of matrix material and fiber (14) is present in an inner section (16), whereas matrix material is exclusively present in an outer section (17), and in that the fibers (14) reach to different extents into the outer section (17), in which the matrix material is exclusively present, for a strength optimizing intermeshing of the inner section (16) with the outer section (17).

2. The composite material of claim 1, characterized in that the fibers (14) neighboring an inwardly positioned opening (11) terminate with an equal spacing from said opening (11), whereas next to the outer section (17), in which the matrix material is exclusively present, this spacing is formed to vary.

3. The composite material of claim 1 or 2, characterized in that the groove or each groove (13) is formed as a spiral, such that the fiber or each fiber (14) inside the matrix material extends spirally.

4. The composite material of one or more of claims 1 to 3, characterized in that the spacing with which the groove or

each groove (13) ends from the outer end of the respective disc (10), is adapted individually for each disc.

5. The composite material of one or more of claims 1 to 4, characterized in that the matrix material is titanium or a titanium alloy, and that the fibers are formed as silicon carbide fibers.

6. A method for producing a composite material of a plurality of assembled discs (10) made of a matrix material, wherein preferably each disc (10) is provided with at least one groove (13) in which at least one fiber (14) is inserted, comprising the following steps:

a) providing several discs (10) made of matrix material,

b) forming at least one groove (13) preferably in each disc (10) and then inserting at least one fiber (14) in the or each groove (13) of the respective disc (10),

c) consolidating the respective disc (10) such that the fiber or each fiber (14) is surrounded on all sides by or embedded in the matrix material of the respective disc (10),

d) stacking consolidated discs (10), and

e) connecting the stacked discs (10) in a joining step.

7. The method of claim 6, characterized in that in connection with step b) the fiber or each fiber (14) is inserted into the groove or each groove (13) of the respective disc (10)

so that in an inner section (16) a composite of matrix material and fiber (14) is present, whereas matrix material is exclusively present in an outer section (17).

8. The method of claim 6 or 7, characterized in that in connection with step b) a groove (13) is formed in the disc (10), said groove having a depth larger than the diameter of the fiber (14) such that lands (15) of matrix material project above the fiber (14) inserted into the groove (13).

9. The method of one or more of claims 6 to 8, characterized in that in connection with step c) the matrix material with the fiber or each fiber (14) inserted therein is exposed to a super-plastic deformation such that the fiber or each fiber (14) is surrounded on all sides by matrix material.

10. The method of one or more of claims 6 to 9, characterized in that in connection with step d) the discs (10) made of matrix material and having at least one fiber (14) embedded therein, are arranged one on top of the other, particularly are stacked to form a ring or hollow cylinder.

11. The method of one or more of claims 6 to 10, characterized in that in connection with step d) the discs (10) are stacked such that the fibers (14) of the stacked discs (10) reach to different extents into an outer section (17) in which the matrix material is present exclusively, for a

strength optimizing intermeshing of the inner section (16) with the outer section (17).

12. The method of one or more of claims 6 to 11, characterized in that in connection with step e) the stacked discs (10) are joined by diffusion welding.

13. The method of one or more of claims 6 to 12, characterized in that the discs (10) made of matrix material having embedded therein at least one fiber (14) are checked or inspected prior to joining thereof with other discs, for breaks in the fiber or in each fiber and/or for cracks in the matrix material, and a disc is discarded when a crack or a break is discovered.

14. The use of a composite material of one or more of claims 1 to 5, for producing structural components having a configuration of rotational symmetry or being ring shaped or blade shaped having an integral blading i.e. of so-called bladed rings (blings) or bladed discs (bliscs).